

Photocatalytic hydrogen evolution and induced transmutation of potassium to calcium via low-energy nuclear reaction (LENR) driven by visible light

#Gongxuan Lu¹, Wenyan Zhang²

¹Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou, 730000, China

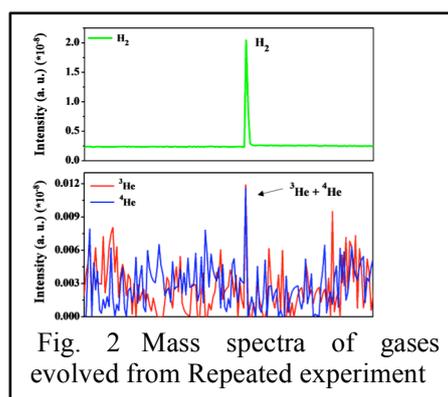
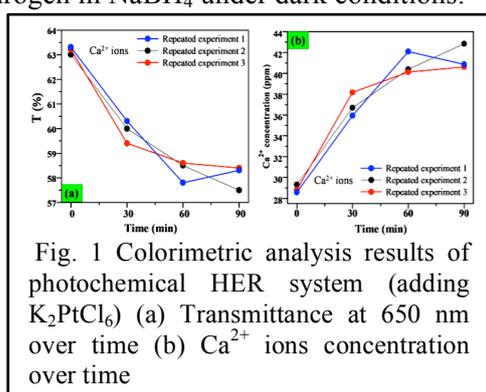
²College of Material Engineering, Jinling Institute of technology, Nanjing, 211169, China

Email: gxlu@lzb.ac.cn



Modern physics studies show that element transmutation can take place either by natural process or artificial process. Nevertheless, inducing transmutation reaction via colliding method requires highly energy accelerator equipment with vast power supply and cost. Besides, a large number of experiments certified that transmutation could be initiated in “mild” reactive systems under certain circumstances, like in metabolism processes of vegetal and animal organisms over the past two centuries. To investigate transmutation in biological systems, Kervran et al. investigated potassium and calcium content variation during the growth of 840 seeds and 403 sprouts. They proposed potassium might transmute into calcium during the process of seeds growing, which could be represented in reaction formula: $^{39}\text{K} + ^1_0\text{p} = ^{40}\text{Ca} + \text{E}$ [1]. Up to now, there is no unified point of view on the mechanism of elemental transmutations in “mild” reactive systems. Unveiling that mystery is extremely meaningful for understanding how life evolution and surviving on earth, as well as providing safer and low-cost way to make use of nucleus energy.

In this work, we fulfilled the transmutation of potassium element to calcium during photochemical reaction of hydrogen evolution (HER). Photochemical HER reaction system is a bionic system which simulates the behaviour of plants in nature to absorb and convert solar energy for hydrogen production. Inspired by a recent discovery of our group, the deuterium and helium were generated from protons by LENR in that system [2], potassium was chosen as the target transmutation element in this work, taking into account the essential roles of potassium and calcium in biological bodies. It is interesting to find that the concentration of calcium elements increased during the photochemical HER reaction in the presence of potassium. The results indicated that the increasing of calcium elements might be closely related to H atoms with electro-negativity hydrogen (H-) generated in reaction system. We also identified the similar transmutation could be achieved by negativity hydrogen in NaBH_4 under dark conditions.



References.

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- [2] G.X. Lu, W. Y. Zhang, J. Mol. Catal. (China), 2017, 31(5): 401-410. Photocatalytic hydrogen evolution and induced transmutation of K to Ca via low-energy nuclear reaction (LENR) driven by visible light.
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